

CLAIMS

We claim:

1. A method of multi-modal content delivery, the method comprising:
establishing a session between a server and a client device;

while in a state of the session, delivering content, formatted for a first presentation mode,
to the client device, the content being associated with the state;

5 storing a state record associated with the client device, the state record defining the state
of the session;

receiving a mode-switching signal from the client device; and

in response to the mode-switching signal, continuing the session in the state by delivering
the content, formatted for a second presentation mode, to the client device, wherein the second
10 presentation mode is different from the first presentation mode

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2. The method of claim 1, wherein the first presentation mode is a voice-based mode.

3. The method of claim 2, wherein the second presentation mode is a screen-based mode.

4. The method of claim 1, wherein the first presentation mode is a screen-based mode.

5. The method of claim 4, wherein the second presentation mode is a voice-based mode.

6. The method of claim 1, wherein delivering content, formatted for a first presentation mode, to the client device comprises:

receiving content in an original format from the server;

transcoding the content in the original format to provide the content, formatted for the

5 first presentation mode; and

transmitting the content, formatted for the first presentation mode, over an air interface to the client device.

7. The method of claim 1, wherein delivering content, formatted for a second presentation mode, to the client device comprises:

receiving content from the server in an original format;

transcoding the content in the original format to provide the content, formatted for the

5 second presentation mode; and

transmitting the content, formatted for the second presentation mode, over an air interface to the client device.

8. The method of claim 1, wherein the state record identifies the state of the session by identifying a navigation point, the navigation point identifying a specific resource available from the server.

9. The method of claim 8, wherein the navigation point is defined by a uniform resource identifier (URI).

10. The method of claim 8, wherein the state record includes a cache of content associated with the state, and wherein;
continuing the session in the state further comprises transmitting the cache of content to the client device.

11. The method of claim 1, further comprising:
the client device transmitting the mode-switching signal over an air interface.

12. The method of claim 1, wherein the mode-switching signal includes a service request, the service request identifying the client device and the second presentation mode.

13. The method of claim 12, further comprising:
in response to the service request, determining whether the client device is authorized to receive content formatted for the second presentation mode.

14. The method of claim 13, further comprising:
in response to the service request, locating the state record associated with the client device.

15. A system for delivering content to a client device while the client device is in a session with a server, the system comprising:

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a wireless access network for communicating with the client device over an air interface;
a first presentation system for delivering content, formatted for a first presentation mode,
to the wireless access network;
a second presentation system for delivering content, formatted for a second presentation mode, to the wireless access network; and
a session manager for transmitting content from the server to the first presentation system and to the second presentation system, the session manager storing a state record associated with the client device, the state record defining a state of the session.

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16. The system of claim 15, wherein the session manager receives a service request from the client device, the service request identifying the client device and the first presentation mode, and wherein, in response to the service request, the session manager:

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a) retrieves the state record associated with the client device;
b) identifies the state defined by the state record;
c) continues the session in the state between the client device and the server; and
d) transmits content associated with the state from the server to the first presentation system.

17. The system of claim 15, wherein the service request identifies the client device and the second presentation mode, and wherein, in response to the service request, the session manager:

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a) retrieves the state record associated with the client device;
b) identifies the state defined by the state record;

c) continues the session in the state between the client device and the server; and
d) transmits content associated with the state from the server to the second presentation system.

18. The system of claim 15, wherein the first presentation system includes a voice-command platform.

19. The system of claim 15, wherein the second presentation system includes a data service node.

20. The system of claim 15, further comprising an authentication server, wherein the session manager queries the authentication server in response to a service request from the client device.

21. For use in a network that includes at least a first presentation system and at least a second presentation system, a session manager for managing multi-modal content delivery, wherein content is initially transmitted to the first presentation system, the session manager comprising:

5 a processor;
 a memory;
 a network interface by which content from a network is receivable; and
 a mode-switching module of machine instructions stored in the memory, the mode-switching module being executable by the processor to initiate a switchover from the first

10 presentation system to the second presentation system in response to a mode-switching signal, wherein the content is then transmitted to the second presentation system.

22. The session manager of claim 21, further comprising:

a session state storage module of machine instructions stored in the memory, the session state storage module being executable by the processor to maintain a record of a session state, the session state defining the state of a user's session before the switchover; and
56 the mode-switching module being further executable by the processor to use the record to reproduce the user's session after the switchover.

23. The session manager of claim 22, wherein the record includes a navigation point, the navigation point identifying a specific resource available from the network.

24. The session manager of claim 23, wherein the record further includes data entered by the user prior to the switchover.

25. The session manager of claim 24, wherein reproducing the user's session includes transmitting, to the second presentation system, the data entered by the user prior to the switchover.

26. The session manager of claim 21, further comprising:

a transcoding module of machine instructions stored in the memory, the transcoding module being executable by the processor to transcode the content into a format compatible with the first or the second presentation system.

27. For use in a network that includes at least a first presentation system and at least a second presentation system, a session manager for managing multi-modal content delivery, wherein content is initially transmitted to the first presentation system, the session manager comprising:

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a processor;

a memory;

a network interface by which content from a network is receivable; and

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a session state storage module of machine instructions stored in the memory, the session state storage module being executable by the processor to maintain a record of a session state, the session state defining the state of a user's session before a switchover from the first presentation system to the second presentation system;

the record including a navigation point, the navigation point identifying a specific resource available from the network;

the record further including data entered by the user prior to the switchover;

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a mode-switching module of machine instructions stored in the memory, the mode-switching module being executable by the processor to receive a mode-switching signal and to responsively initiate the switchover and transmit the content to the second presentation system, the mode-switching module being further executable by the processor to use the record to reproduce the user's session after the switchover;

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wherein reproducing the user's session includes transmitting, to the second presentation system, the data entered by the user prior to the switchover; and

a transcoding module of machine instructions stored in the memory, the transcoding module being executable by the processor to transcode the content into a format compatible with the first presentation system or the second presentation system.